ON A COLLECTION OF BUTTERFLIES MADE IN THE MAPUTA DISTRICT, PORT. S.E. AFRICA, BY Dr. H. G. BREYER, DIRECTOR OF THE TRANSVAAL MUSEUM, DURING THE MONTH OF JUNE, 1914.

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The butterflies enumerated in this list were procured by Dr. H. G. Breyer whilst on a conjoint expedition of the Transvaal Museum, Pretoria, and the Provincial Museum, Lourenco Marques. Although the chief object of this expedition was large game, Dr. Breyer succeeded in obtaining a fair number of several species of Lepidoptera—Rhopalocera.

The weather had been dry, no rain was experienced, and the ordinary winter conditions had already set in. The last rains must have occurred about ten days or so before the arrival of the expedition, which explains the fact that a large number of the species captured are represented by summer- intermediate- and dry-phase forms. In a few cases, *T. auxo*, f.i., the winter form only was met with. That the summer forms were speedily disappearing is evident by the worn condition of some of the specimens, although in some cases the same worn condition is a feature of the specimens of the dry phase. This might be attributed to the very bushy nature of the country; one may at least assume that specimens living in such country are more apt to damage themselves than in the case of specimens frequenting perfect open country. In a few instances, amongst others, *T. wallengrenii* Butl., two of the specimens, which are in a perfect condition, are distinct forms of the wet phase, but already show, in a few minor points, the influence of the dry season. None of the specimens, however, show the very bright colouration, as is usually met with in specimens caught during the height of and at the end of a favourable summer season with plenty of rain and bright sunny days, and, for one acquainted with the influence the amount of rain during a season exercises on the production of the several forms of a species, and especially so in the *Acraeinae* and *Teracoli*, it is not difficult to conclude from this series that the summer rains have not been too plentiful, and more particularly so one and perhaps two months before those specimens were caught.

RHOPALOCERA.

Family DANAIDIDAE.

Genus Danaida Latreille.

D. chrysippus, L..... Practically met with everywhere, but not in large numbers.

Family SATYRIDAE.

Genus Melanitis Fabricius.

M. leda (Linn.)..... 4 ♂♂, 2 ♀♀.

Family NYMPHALIDAE.

Sub-Family ACRAEINAE.

Genus ACRAEA Fabricius.

A. acrita Hew..... 1 ♀. An unusually dark and brightly coloured female with the abdominal spots orange-rufous instead of white.

A. nohara Hew..... 1 ♀. This specimen is smaller than usual, with a colouration approaching that of the male; the ground colour of the under wing being scarlet and gradually becoming brighter towards the base.

A. aglaonice Westw... 1 ♀. This is a very richly coloured specimen, with the basal half of fore wing and the greater part of hind wing bright scarlet. The black borders are very much reduced, especially so in hind wing, in which it is also very strongly divined. The under side of the wings agrees exactly with the figure in Oates' "Matabeleland," which, however, represents a male.

A. oncaea Hopff..... 13 ♂♂, 5 ♀♀. Two of the male specimens agree in every respect with the figure in Peter's "Reise nach Mocambique," whereas the others are all more brightly coloured, and one especially so, in which the ground colour of the under wing shows the same bright scarlet as is noted in *A. nohara* and *A. aglaonice*.

The four females are darker than any of the specimens in the Museum collection. One specimen has the white band also much more developed than usual, and exhibits, which is also the case in another specimen, the same scarlet colouring as referred to above.

A. rahira Bsd..... 2 ♂♂, 1 ♀. These specimens are much lighter coloured than any in the Museum collection; the black spots are very much reduced in size and the black borders of both wings much narrower.

A. terpsichore var. *rougeti* Quin. 11 ♂♂, 7 ♀♀. The males all agree with the series in the Museum from Transvaal and Natal and the females show the same variation, not one being like the other.

A. encedon (Linn.).... 15 ♂♂, 1 ♀. There is no difference between the specimens of this series and that in the Museum from Transvaal, Natal, and Eastern Cape Colony. A slight variation in the size of the spots of the under wing occurs, which is also noted in the Museum series.

A. encedon ab. sganzini Bsd. 12 ♂♂, 2 ♀♀. Four of the males have the primaries suffused with black. This suffusion also occurs in specimens from Natal and elsewhere, and seems to be a common feature of the species. The other males and the two females are typical *sganzini* Bsd.

Sub-Family NYMPHALIDAE.

Tribus VANESSIDI.

Genus PRECIS Hübner.

P. clelia (Cram.)..... 3 ♂♂, 2 ♀♀.

Tribus EURYTELIDI.

Genus EURYTELA Bsd.

E. dryope (Cram.).... 6 ♂♂, 1 ♀.

Genus BYBLIA Hübner.

B. ilityia Drury..... 2 ♂♂, 1 ♀. These specimens are intermediate between the wet and dry phase.

Tribus EUNICIDI.

Genus CRENIS Bsd.

C. natalensis Bsd..... 2 ♀♀.

Tribus NYMPHALIDI.

Genus HAMANUMIDA Hübner.

H. daedalus var. *meleagris* (Cram.) 2 ♂♂.

Tribus CHARAXIDI.

Genus CHARAXES Ochsenheimer.

Ch. brutus var. *natalensis* Staud. 2 ♂♂.

Ch. jahlusa Trimen... 1 ♀. A very strongly marked specimen. The spots on fore wing very much enlarged and the black borders in both wings intensively black. The specimen is also smaller than any one in the Museum collection.

Family LYCAENIDAE.

Sub-Family LYCAENINAE.

Genus LACHNOCNEMA Trimen.

L. bibulus (Fabr.)..... 1 ♀.

Genus HYPOLYCAENA Felder.

H. philippus (Fabr.).. 1 ♂.

Genus IOLAUS Hübner.

I. silas Westw..... 1 ♂.

Genus SPINDASIS Wallgren.

S. natalensis Doubl. and Hew. 1 ♂, 1 ♀.

S. mozambica (Bertoloni) 1 ♂.

Genus CUPIDO Schrank.

C. telicanus Lang..... 1 ♂.

C. baetica (Linn.)..... 1 ♂.

C. mahallokoaena..... 1 ♂, 1 ♀.

Family PIERIDAE.

Genus HERPAENIA Butler.

H. eriphia (Godart)... 2 ♂♂, 1 ♀. These three specimens belong to the wet phase.

Genus PIERIS Schrank.

P. severina (Cram.)... 2 ♂♂, 1 ♀.

P. mesentina (Cram.). 1 ♂.

P. spilleri Stand..... 11 ♂♂, 7 ♀♀. Five of the females belong to the dull white form, whilst the other two to the yellow form of female.

Genus TERACOLUS Swainson.

T. vesta var. *mutans* Butler 5 ♂♂, 4 ♀♀. Four males of the wet phase and one male with the under side of both wings typical dry phase ; in size and brightness of colour above, however, it cannot be distinguished from the wet phase.

Of the four females one specimen exhibits the distinctive colouring of the wet phase, while the other three specimens can be considered to be intermediate forms.

T. eris Klug..... 8 ♂♂, 10 ♀♀. Four of the males can be considered to represent the wet phase, while the other four are intermediate between the wet and dry phase, lacking the discoidal spot at end of cell. There is a slight variation in size and brightness of the "old gold" markings on the fore wings, which variation also occurs in series the Museum possesses from Natal and Transvaal.

Four females represent intermediate phases, with the general colour of wings white, the apical markings of fore wings much reduced and slightly tinted with orange, and a spot between discoidal nervures. Five females represent the "chartreuse-yellow" coloured dry phase, with the apical patch shading into buff ; two of these specimens have the apical markings of fore wings tinted with yellow-brown and in two other specimens these markings are tinted with orange ; the

spot between discoidal nervures is in all four specimens white, whereas one, a perfect specimen, has the apical patch a little broader, the dark markings very bright, and the apical spots, including the spot between discoidal nervures, of the same chartreuse-yellow ground colour. Another female seems to represent the extreme dry phase; the general colour of both wings above is white, but the hind wings, owing to the dark sandy colour of the under side shining through, have a slight sandy appearance; the dark markings are very much reduced in size and intensity of colour, the apical patch of the fore wings lighter buff with the spots tinted with orange, and the spot between discoidal nervures white.

Aurivillius, Rhop. Aeth., p. 427, in my opinion, s perfectly correct in treating *T. maimuma*, Johnstoni, and *opalescens* as synonyms of *T. eris*. The variations in size, etc., which occur in this species being attributable to climatic influences, and in a lesser degree dependent on geographical distribution. It would not be surprising that in favourable seasons the larger form, *T. opalescens* Butl., which so far has its southern limit at Lourenco Marques (Delagoa Bay), will turn up, and perhaps even in numbers further south, and, in fact, some specimens in the Museum series from Natal and Transvaal very nearly approach in size *T. opalescens* Butl., but are in no other way to be distinguished from *T. eris* Klug.

T. ione (Go. . ..... 14 ♂♂, 5 ♀♀. Four males are referable to the variety *jalone* Butl.; the other ten all belong to the variety *phlegyas* Butl. The five females represent the typical form, with the apical patch of fore wings "orange-chrome."

T. regina (Trim.) T... 12 ♂♂, 3 ♀♀. All the males can be considered to be intermediate forms between the wet and dry phase, with the exception of one which approaches the typical dry phase, but for parts of some of the nervures of the hind wings still being black. The females are also intermediate forms, but show a greater tendency towards the dry phase than towards the wet phase.

T. annae (Wallengr.).. 13 ♂♂, 7 ♀♀. Ten males, more or less worn specimens, belong to the wet phase, but show already the influence of the dryness of the season. One is a distinct intermediate form, while the other

two, perfect specimens, are referable to the dry phase, *T. wallengrenii* Butl., although the black borders of fore wings and the hind marginal spot of hind wings are intenser black than is the case in typical *T. wallengrenii*.

One female, a very much worn specimen, belongs to the same intermediate form as the ten males mentioned above; three females, two of which are perfect specimens, are intermediate and three other perfect specimens would be typical *T. wallengrenii* Butl. but for the black markings on the upper side of the wings which are very much pronounced. One of the latter specimens has the apical marking orange and very much reduced on the inner side of the intersecting row of black spots.

T. omphala (Godt.)... 2 ♂♂, 5 ♀♀. Two females, worn specimens, are true *omphale*, whereas the two males and the remaining three females, all perfect specimens, belong to the dry phase, *T. theogone* Bsd. There are no intermediate forms, *T. omphaloides* Butl., in the series.

T. achine (Cram.)..... 4 ♂♂, 4 ♀♀. One male and one female are intermediate between the wet and dry phase of the species; the others all belong to the normal dry phase, *T. ithonus* Butl.

T. antigone (Bsd.).... 18 ♂♂, 7 ♀♀. All these are intermediate between the wet phase, *T. phlegetonia* Bsd., and the dry phase, *T. antigone*.

T. auxo (Lucas)..... 2 ♂♂, 9 ♀♀. The whole series belongs to the dry phase, *T. topha* (Wllgr.); some of the specimens, however, are not quite typical *topha*, but cannot be considered intermediate forms.

T. subfasciatus Swains. 4 ♂♂, 3 ♀♀. All intermediate between wet and dry phase.

Genus ERONIA Bsd.

E. cleodora Hübner... 6 ♂♂, 1 ♀. Intermediate between wet phase, *E. erxia* Hew., and dry phase, *E. cleodora* Hübn.

Genus CATOPSILIA Hübner.

C. florella (Fabr.)..... 3 ♂♂, 4 ♀♀.

Genus TERIAS Swainson.

T. senegalensis Bsd... 1 ♀.

T. brigitta (Cram.).... 3 ♂♂.

T. brigitta zoe Hopffer. 3 ♂♂, 1 ♀. This female differs to a large extent from the ordinary form met with. It altogether lacks the black suffusion and is much larger than usual and in colouring resembles the male.

Family PAPILIONIDAE.

Genus PAPILIO Linn.

P. porthaon Hewitson 1 ♂. A very bad specimen.

Family HESPERIDAE.

Genus PYRGUS.

Pyrgus vindex (Cramer).